

AMENDMENTS TO THE CLAIMS:

The listing of claims shown below will replace all prior versions, and listings of claims in the Application:

1. (Currently Amended) An apparatus for collecting optically sorted particles comprising:
a first surface adapted to support a plurality of particles, the plurality of particles having different optophoretic constants,
an optical illumination system for subjecting the particles to a moving optical gradient field to cause the selective separation of at least a portion of the particles away from the first surface, the selective separation being based on the different optophoretic constants of the particles, and
a second adhesive surface for adhering at least a portion of the separated particles to the second surface.
2. (Original) The apparatus of claim 1 wherein the adhesive surface has a specific affinity.
3. (Original) The apparatus of claim 1 wherein the adhesive surface has a non-specific affinity.
4. (Original) The apparatus of claim 1 wherein the first surface is planar.
5. (Original) The apparatus of claim 1 wherein the first surface is parallel to the second surface.

6. (Original) The apparatus of claim 1 wherein the first surface comprises a glass slide.
7. (Original) The apparatus of claim 1 wherein the first and second surfaces define a volume therebetween.
8. (Original) The apparatus of claim 7 wherein the volume includes a fluid.
9. (Original) The apparatus of claim 8 wherein the fluid has an index of refraction which is between the indices of refraction of the particles.
10. (Previously Added) The apparatus of claim 1, wherein the particle is a cell.
11. (Currently Amended) A method of sorting particles comprising the steps of:
- providing a volume defined by a first surface and a second surface, the volume containing a plurality of particles disposed adjacent to the first surface, the plurality of particles having different optophoretic constants, the second surface comprising an adhesive surface;
- providing an optical illumination system having a moving optical gradient field;
- moving the optical gradient field in a direction towards the second surface so as to cause the selective separation of at least a portion of the particles away from the first surface, the selective separation being based on the different optophoretic constants of the particles, such that at least a portion of the separated particles adheres to the second surface.

12. (Previously Added) The method of claim 11, wherein the first surface and the second surface are parallel to one another.

13. (Previously Added) The method of claim 11, wherein the particle is a cell.

14. (Previously Added) The method of claim 11, wherein the adhesive surface has a specific affinity.

15. (Previously Added) The method of claim 11, wherein the adhesive surface has a non-specific affinity.

16. (Previously Added) The method of claim 11, further comprising the step of removing particles that remain disposed adjacent to the first surface.